

IN THE CLAIMS

1. **(Currently Amended)** Single-sidedly or double-sidedly pressure-sensitively adhesive, elastic adhesive sheet comprising at least one layer of a pressure-sensitive adhesive, and having

a maximum stretchability of more than 200% and a recovery of more than 60% after stretching to 2/3 of its maximum elongation,

said pressure-sensitive adhesive (PSA) being based on a chemically crosslinked polyurethane, wherein the starting materials for the chemically crosslinked polyurethane include at least one isocyanate-reactive substance having a functionality of more than 2.0, in an amount of at least 5% by weight, based on the weight of the polyurethane composition,

the molecular weight of at least one of the starting materials used to form the polyurethane being greater than or equal to 1000,

at least ~~one difunctional polyisocyanate~~ difunctional polyisocyanates being used to form the polyurethane, and

the ratio of maximum tensile stress to stripping stress of said elastic adhesive sheet being more than 1.2, and

the tensile stress at an elongation of 200% being not more than 2.0 N/mm².

2. **(previously presented)** Elastic adhesive sheet according to Claim 1, wherein the polyurethane is formed of the following starting materials which are reacted with one another in the stated proportions:

at least one difunctional polyisocyanate.

a combination of at least one polypropylene glycol diol and at least one polypropylene glycol triol, the ratio of the number of hydroxyl groups in the diol component to the number of hydroxyl groups in the triol component being between 0.7 and 9.0, of the number of isocyanate groups to the total number of hydroxyl groups being between 0.5 and 1.3, where diols having a molecular weight of less than or equal to 1000 are combined with triols whose molecular weight is greater than 1000, or diols having a molecular weight of greater than 1000 are combined with triols whose molecular weight is less than 1000.

3. (previously presented) Elastic adhesive sheet according to Claim 1, wherein the adhesive sheet has a maximum stretchability of more than 300%, and/or a recovery of more than 80%, after stretching to 2/3 of its maximum elongation.

4. (previously presented) Elastic adhesive sheet according to Claim 1, wherein the polyisocyanate is an aliphatic or alicyclic diisocyanate.

5. (previously presented) Elastic adhesive sheet according to Claim 1, wherein the isocyanate is isophorone diisocyanate.

6. (previously presented) Elastic adhesive sheet according to Claim 1, wherein the isocyanate-reactive substances used are polyols.

7. (previously presented) Elastic adhesive sheet according to Claim 1, having a backing sheet applied to one side of the pressure-sensitive adhesive.

8. (previously presented) Elastic adhesive sheet according to Claim 1, wherein the elastic adhesive sheet is a multi-ply laminate comprised of one or more elastic backing sheets and one or more layers of the polyurethane-based pressure-sensitive adhesive.

9. (previously presented) Elastic adhesive sheet according to Claim 1, wherein the adhesive sheet is in a form which is partially non-tacky at one or more ends thereof, so that there are one or more grip tab regions starting from which the parting of the adhesive bond can be performed.

10. (previously presented) Elastic adhesive sheet according to Claim 1, wherein said pressure-sensitive adhesive comprises formulating constituents selected from the group consisting of catalysts, ageing inhibitors, light stabilizers, UV absorbers and rheological additives.

11. (previously presented) Elastic adhesive sheet according to claim 1 having a peel strength on steel, determined at a peel angle of 90°, of between 0.05 and 8 N/cm.

12. (previously presented) Elastic adhesive sheet according to Claim 1, wherein the stripping forces measured during detachment by extensive stretching in the bond plane are less than 2.5 N/mm².

13. (previously presented) Elastic adhesive sheet according to Claim 1, in the form of diecuts or cut shapes.

14. (previously presented) Process for producing the pressure-sensitive adhesive sheet of claim 1, which comprises

- a) charging a vessel A with the premixed isocyanate-reactive substances (polyol component) and charging a vessel B with the isocyanate component,
- b) conveying the polyol component and the isocyanate component via pumps through a mixing head or mixing tube of a multi-component mixing and metering unit, and homogeneously mixing same to bring about a reaction between them,
- c) applying the chemically inter-reactive components mixed in this way to a sheet-form backing material,
- d) passing the backing material coated with the reactive polyurethane composition through a heating tunnel in which the polyurethane composition cures to form the pressure-sensitive adhesive,
- e) finally, winding the coated backing material up in a winding station.

15. (previously presented) A method for fastening notes, sheets of paper, calendar pages, strips, cards or cartons of paperboard, cardboard or plastic, small utility articles of plastic, wood, glass, stone or metal, which comprises fastening same with the elastic adhesive sheet of Claim 1.

16. (previously presented) The elastic adhesive sheet according to Claim 4, wherein said aliphatic or alicyclic diisocyanate has an asymmetrical molecular structure.

17. (previously presented) The elastic adhesive sheet of Claim 6, wherein said polyols are selected fro the group consisting of polyether-polyols or polyester-polyols.